

CNL Assignment-8

Q.1. What is DNS? Main purpose of DNS server?

- i) DNS is hierarchical and decentralised naming system for computer services or other resources connected to Internet or private network.
- ii) It associates various information with domain names assigned to each of participating entities.
- iii) It translates more readily memorized domain names to numerical IP addresses needed for locating and identifying computer services and devices with underlying network protocols.
- iv) The Domain Name System delegates the responsibility of assigning domain names and mapping those names to Internet resources by designating authoritative name servers for each domain.

• Function:

a) The DNS serves as phone book for Internet by translating human friendly computer hostnames into IP addresses.

b) eg: `www.example.com` translates to `93.184.216.34`

c) The DNS can be quickly and transparently updated, allowing a service's location on network to change without affecting end users.

Q.2. What are DNS zones?

- a) A DNS zone is any distinct, contiguous portion of domain name space in Domain Name Sys (DNS) for which administrative responsibility has been d. to single manager.
- b) With number of DNS servers being used instead of single one, we have to define the area over which each server has an authority.

- c) What a server is responsible for or has authority over is called as zone.
- d) If server is appointed for domain and the domain is not further divided into subdomains then the domain and zone will be same.
- e) The server makes a database called a zone file. It keeps all info about every node under that zone.
- f) But if a server divides its domains into subdomains and delegates part of its authority to other servers then domain and zone will be different from each other.
- g) Info about nodes is stored in lower levels.

Q.3. What is round robin DNS?

- 1. Round Robin DNS is technique of load distribution, load balancing or fault-tolerance provisioning multiple, redundant Internet Protocol service hosts.
eg: web servers, FTP servers, etc.
- 2. In its simplest implementation, round robin DNS works by responding to DNS requests not only with single potential IP addresses.
 - 3. The order in which IP addresses from list are returned is basis for term round robin.
 - 4. With each DNS response, IP address sequence in list is permuted.
 - 5. Round-robin DNS is often used to load balance requests among number of web servers.
 - 6. IP clients initially attempt connections with host address returned from a DNS query, so that on different connection attempts, clients would receive service from different providers, thus distributing overall load among servers.